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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,147	09/04/2001	Hiroshi Kajiyama	381NT/50373	9108

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EXAMINER

DONG, DALEI

ART UNIT PAPER NUMBER

2875

DATE MAILED: 12/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,147

Applicant(s)

KAJIYAMA ET AL.

Examiner

Dalei Dong

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/944,147.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 9, line 4, bus electrodes missing component number 8.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,770,921 to Aoki in view of U.S. Patent No. 5,976,236 to Yoshihara.

Regarding to claims 1-6, Aoki discloses in Figure 2, a sectional view of an AC plasmas display panel. The AC plasma display panel comprising of "a front panel which is made up of front glass substrate 11 with electrode 12 and dielectric glass layer 13, thereon; and a back panel is made up of back glass substrate 15 with address electrode 16, partition walls 17, and fluorescent substance layer 18, the front panel and back panel being bonded together. Discharge space 19, which is sealed with the front panel and back panel, is charged with a discharge gas" (column 3, line 59-66).

Aoki also discloses in Figure 2, "a protecting layer 14 consists of an alkaline earth oxide with (100)-face orientation and is dense. The present embodiment uses a CVD method (thermal CVD method or plasma enhanced CVD method) to form such a dense protecting layer consisting of magnesium oxide with (100)-face orientation" (column 4, line 15-20).

However, Aoki does not disclose a protective film that has a higher density. Yoshihara teaches, "the surface area of magnesium oxide in the protective layer should be increased, for example, from the viewpoint of increasing the secondary electron emission rate in an alternating plasma display. For this reason, the particle diameter of magnesium oxide is preferably not more than 0.3 μm , more preferably not more than 0.1 μm . When the particle diameter is brought to not more than 0.3 μm to eliminate gaps among particles, thereby increasing the surface area, a magnesium oxide film can be efficiently formed by the conventional heat treatment process. Although the thickness of the magnesium oxide film is not particularly limited, it is preferably not more than 10 μm , particularly preferably not more than 1 μm " (column 8, line 14-26)

Yoshihara also teaches, "the composition comprising a partial hydrolyzate according to the present invention is coated on a substrate, and the coating is then dried. In the step of drying, the solvent in the coating is removed by evaporation, and the coating absorbs moisture in the air, causing the hydrolysis to further proceed. Finally, the partial hydrolyzate is completely hydrolyzed, and the coating is finally formed of a metal hydroxide. For example, for a partial hydrolyzate of a magnesium compound, after

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coating, the hydrolysis further proceeds and is completed to form a dense coating of $\text{Mg}(\text{OH})_2$ in a complete form which can be heat-treated to be brought to a high-crystalline, high-density MgO film. The use of a complete hydrolyzate as the raw material for coating cannot offer such a high-crystalline, high-density MgO film" (column 8, line 27-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilize the high-crystalline, high-density MgO film of Yoshihara as the protective layer of the AC plasma display panel of Aoki in order to form a film even at a low temperature by chemical means in a simple and stable manner, has excellent film strength, adhesion, protective effect and other properties and excellent transparency in the form of a functional film and can form a function film at a low cost and prolong the lifetime of the plasma display.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of the composition of an ac-type plasma display panel.

U.S. Patent No. 5,825,128 to Betsui.

U.S. Patent No. 5,897,945 to Lieber.

U.S. Patent No. 5,909,083 to Asano.

U.S. Patent No. 5,952,782 to Nanto.

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U.S. Patent No. 5,952,783 to Kuroki.

U.S. Patent No. 5,977,708 to Amatsu.

U.S. Patent No. 6,013,983 to Asano.

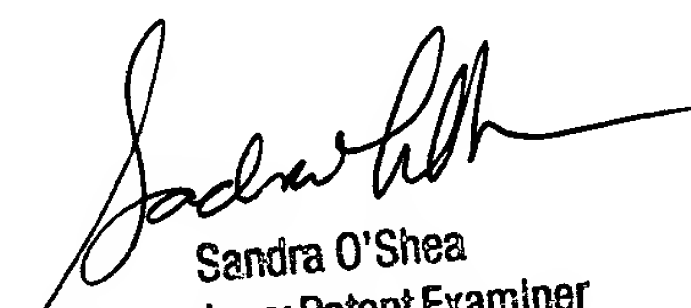
U.S. Patent No. 6,150,030 to Stollenwerk.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (703)308-2870. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703)305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

D.D.
December 19, 2002


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800